

Attorney's Docket No.: 07977/208001/US3511

of crystals extending in a crystal growth direction which is parallel to the insulating surface;

an insulating film on the crystalline semiconductor film;

Cont
E1
a plurality of electrodes formed on the insulating film, each of said plurality of electrodes located within a predetermined distance so that a plurality of MOS capacitors are formed between the plurality of electrodes and the crystalline semiconductor film with the insulating film therebetween,

wherein a charge is transferred from one of the MOS capacitors to another of the MOS capacitors in a charge transfer direction,

wherein a crystal structure of the crystalline semiconductor film is continuous so that the crystal structure is regarded as single crystal for the charge,

wherein the charge transfer direction is coincident with said crystal growth direction.

Please add the following new claims 25, 25, and 26.

24. A semiconductor device comprising:

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a plurality of photodiodes formed in a matrix on an insulating surface;

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a plurality of vertical charge coupled devices on the insulating surface, said vertical charge coupled devices connected with the plurality of photodiodes;

at least a horizontal charge coupled device on the insulating surface, said horizontal charge coupled device connected with the vertical charge coupled device,

wherein at least one of the vertical and horizontal charge coupled devices comprises a crystalline semiconductor film having a plurality of crystals extending in a crystal growth direction,

wherein a charge transfer direction of at least one of the vertical and horizontal charge coupled devices is coincident with the crystal growth direction.

25. A semiconductor device comprising:

a photoelectric conversion formed over an insulating surface;

a charge coupled device electrically connected to the photoelectric conversion device and formed over the insulating surface;

said charge coupled device including:

a crystalline semiconductor film formed on the insulating surface, said crystalline semiconductor film having a

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plurality of crystals extending in a crystal growth direction which is parallel to the insulating surface;

an insulating film on the crystalline semiconductor film;

Cont
E2
a plurality of electrodes formed on the insulating film, each of said plurality of electrodes located within a predetermined distance so that a plurality of MOS capacitors are formed between the plurality of electrodes and the crystalline semiconductor film with the insulating film therebetween,

wherein a charge is transferred from one of the MOS capacitors to another of the MOS capacitors in a charge transfer direction,

wherein the charge transfer direction is coincident with the crystal growth direction.

26. A semiconductor device comprising:

a photoelectric conversion formed over a transparent substrate;

a charge coupled device electrically connected to the photoelectric conversion device and formed over the insulating surface;

said charge coupled device including:

a crystalline semiconductor film formed on the insulating surface, said crystalline semiconductor film having a

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plurality of crystals extending in a crystal growth direction
which is parallel to the insulating surface;

an insulating film on the crystalline semiconductor
film;

and
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a plurality of electrodes formed on the insulating
film, each of said plurality of electrodes located within a
predetermined distance so that a plurality of MOS capacitors are
formed between the plurality of electrodes and the crystalline
semiconductor film with the insulating film therebetween, and

an active matrix display device comprising a plurality of
thin film transistors formed over the transparent substrate;

wherein a charge is transferred from one of the MOS
capacitors to another of the MOS capacitors in a charge transfer
direction,

wherein the charge transfer direction is coincident with
the crystal growth direction.
